Thunderbolt® XL AC

Issued March 2005 • Index No. AC/2.0

Stick Welding Power Source

Quick Specs

Light Industrial Applications
Home and Farm Use
Garage/Job Shops
Plant Fabrication/Maintenance
Vocational Training

Processes
Stick (SMAW)

Input Power 1-Phase Power

Amperage Range
225: HIGH 40–235 A (AC), LOW 30–150 A (AC)

Max. Open-Circuit Voltage 80

Weight **225 AC:** 85 lb (39 kg)

The Power of Blue®

Infinite current control allows the operator to adjust output by as little as 1-amp increments. Users can always get the exact heat they need, unlike the step control design on competitive products.

The exclusive **patented Accu-Set™ amperage indicator** provides precise heat control with infinite amperage control.

High 100% duty cycle rating
For the 225 amp model: 100 amps AC

Comes Complete With:
Power source with 15 ft (4.5 m) electrode cable, electrode holder, 10 ft (3 m) work cable with clamp, and power cord with plug.
Note: Does not include wall receptacle.

Output selector switch allows you to quickly select low or high range without adjusting the output leads.

Fully varnished magnetic coils: varnish protects and lengthens the life of the coils inside.

Forced-draft cooling fan runs continuously and helps to extend the life of the power source.

Specifications (Subject to change without notice.)

CC AC 1 Phase

Input Power	Rated Output at 20% Duty Cycle	Welding Amperage Range High	Welding Amperage Range Low	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50 or 60 Hz, 1-Phase 230 V	Dimensions	Weight
225 VAC	225 A at 25 VAC, 60 Hz (15% Duty Cycle at 50 Hz)	40–235 A	30–150 A	80	47.5 2.3*	H: 18-3/4 in (476 mm) W: 12-3/4 in (323 mm) D: 17-1/2 in (445 mm)	85 lb (39 kg)

** While idling*

TRUE BLUE® 3YR. WARRANTY

Power source is warranted for 3 years, parts and labor.
Original main power rectifiers are warranted for 5 years.

MADE IN USA

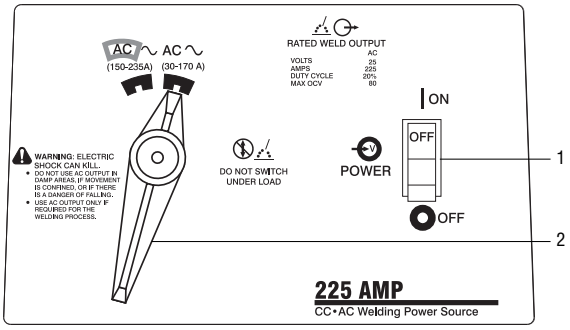
Miller Electric Mfg. Co.
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

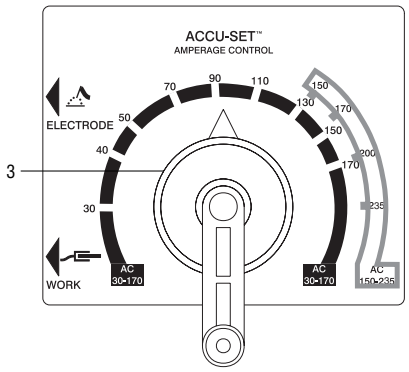
International Headquarters
Phone: 920-735-4505
USA FAX: 920-735-4134
Canadian FAX: 920-735-4169
International FAX: 920-735-4125

Web Site
www.MillerWelds.com

ISO 9001:2000 REGISTERED QUALITY SYSTEM

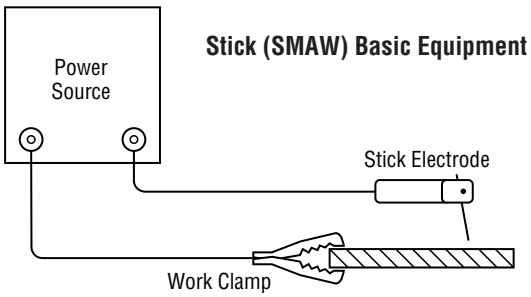
Control Panel





1. Power Switch
2. Selector Switch
3. Amperage Adjustment Control

Typical Installation



Electrode Charts

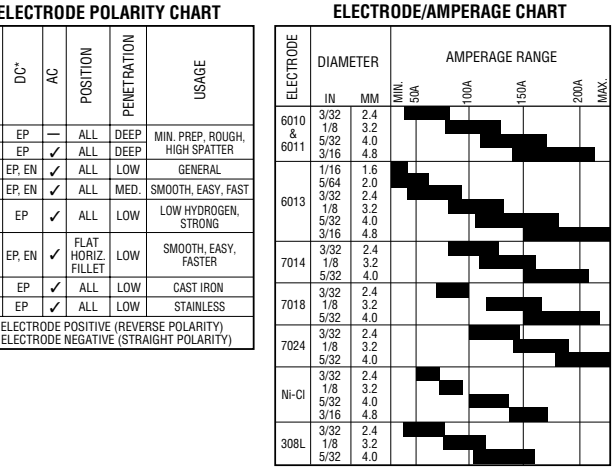
ELECTRODE POLARITY CHART

ELECTRODE	DC*	AC	POSITION	PENETRATION	USAGE
6010	EP	—	ALL	DEEP	MIN. PREP, ROUGH, HIGH SPATTER
6011	EP	✓	ALL	DEEP	
6013	EP, EN	✓	ALL	LOW	GENERAL
7014	EP, EN	✓	ALL	MED.	SMOOTH, EASY, FAST
7018	EP	✓	ALL	LOW	LOW HYDROGEN, STRONG
7024	EP, EN	✓	FLAT HORIZ. FILLET	LOW	SMOOTH, EASY, FASTER
Ni-CI	EP	✓	ALL	LOW	CAST IRON
308L	EP	✓	ALL	LOW	STAINLESS

*EP = ELECTRODE POSITIVE (REVERSE POLARITY)
EN = ELECTRODE NEGATIVE (STRAIGHT POLARITY)

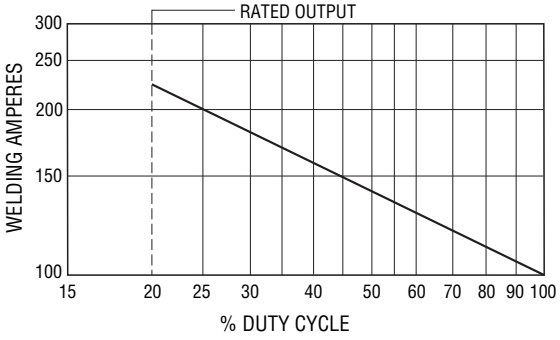
ELECTRODE/AMPERAGE CHART

ELECTRODE	DIAMETER IN	DIAMETER MM
6010 & 6011	3/32	2.4
	1/8	3.2
	5/32	4.0
	3/16	4.8
6013	1/16	1.6
	5/64	2.0
	3/32	2.4
	1/8	3.2
	5/32	4.0
	3/16	4.8
7014	3/32	2.4
	1/8	3.2
	5/32	4.0
7018	3/32	2.4
	1/8	3.2
	5/32	4.0
7024	3/32	2.4
	1/8	3.2
	5/32	4.0
Ni-CI	3/32	2.4
	1/8	3.2
	5/32	4.0
	3/16	4.8
308L	3/32	2.4
	1/8	3.2
	5/32	4.0



Performance Data

THUNDERBOLT XL 225 DUTY CYCLE CHART



Ordering Information

Power Source	Stock No.	Description	Qty.	Price
Thunderbolt® XL 225 AC	**#903 641***	230 V, 50/60 Hz. Includes 5 ft (1.5 m) power cord w/230 V plug		
Running Gear	**#043 927**	Mounts easily to unit and provides convenient portability. Includes two wheels, two feet and handle.		
Miscellaneous				
Stick Electrodes		See charts above		
Helmet/Gloves/Scratch Brush				
Chipping Slag Hammer				
Wall Receptacle				

Date: **Total Quoted Price:**

* *Certified by Canadian Standards Association to both the Canadian and U.S. Standards.*

Distributed by:

Miller®

Litho in USA

Dialarc® 250 AC/DC

Issued Oct. 2004 • Index No. AD/2.1

Stick Welding Power Source

Quick Specs

Light Industrial Applications
Production Line Work
Plant Maintenance
Garage/Job Shops
Fabrication
Vocational School Training

Process
Stick (SMAW)

Input Power 1-Phase Power

Rated Output AC: 225 A at 29 V, 30% Duty Cycle
DC: 175 A at 27 V, 50% Duty Cycle

Max. Open-Circuit Voltage AC: 70
DC: 79

The Power of Blue®

Single-dial current control simplifies weld adjustment.

Infinite current control allows precise weld output adjustment; you always get the exact heat you need to produce a better weld.

Two weld ranges for both AC and DC welding allow greater control of weld performance for changes in welding conditions.

Fully varnished magnetic amplifier technology provides lower maintenance, and outstanding product reliability with fewer moving parts.

Forced-draft cooling fan ensures a cooler running product, extending the life of the power source.

Superior 6010 and 7018 Stick welding performance offers a wide range of electrode versatility; welds difficult-to-weld metals.

High output and duty cycle allows unit to handle nearly all of your Stick welding needs.

Industrial, weld output terminal cover.

Power factor correction is available for lower primary power demand.

Optional remote weld output control provides current control without going back to the power source—saves time and effort.

TRUE BLUE® 3YR. WARRANTY

Power source is warranted for 3 years, parts and labor.
Original main power rectified parts are warranted for 5 years.

MADE IN USA
APPLETON, WI

Miller®

Miller Electric Mfg. Co.
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

International Headquarters
Phone: 920-735-4505
USA FAX: 920-735-4134
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International FAX: 920-735-4125

Web Site
www.MillerWelds.com

ISO 9001:2000 REGISTERED QUALITY SYSTEM

Specifications (Subject to change without notice.)

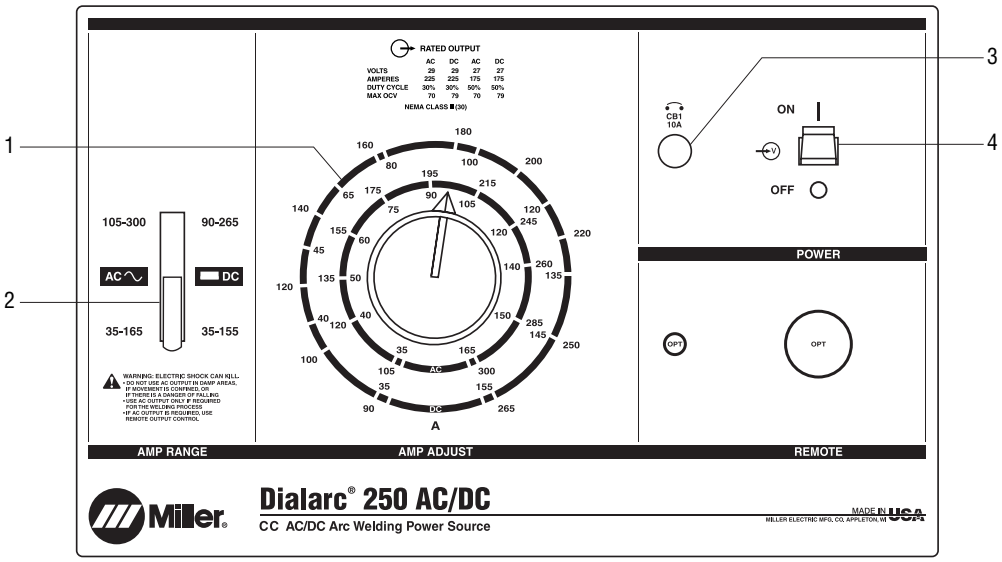
Power Factor Correction		Welding Amperage Ranges	Max. Open-Circuit Voltage	Rated Output*	Amps Input at Rated Output, 50 or 60 Hz, Single-Phase 200 V	208 V	220 V	230 V	380 V	440 V	460 V	575 V	KVA	KW	Dimensions	Weight
60 Hz, Without	**AC**	Low: 35–165 High: 105–300	70	225 A at 29 V, 175 A at 27 V	84 66	— —	— —	73 57	— —	— —	36 29	29 23	16.8 13.3	9.8 7.1	H: 24-1/4 in (616 mm) W:19 in (483 mm) D: 28 in (711 mm)	**Net:** 360 lb (163 kg) **Ship:** 370 lb (168 kg)
	DC	Low: 35–155 High: 90–265	79	225 A at 29 V, 175 A at 27 V	92 70	— —	— —	80 61	— —	— —	40 31	32 24	18.6 14.1	11.8 7.9		
60 Hz, With	**AC**	Low: 35–165 High: 105–300	70	225 A at 29 V, 175 A at 27 V	— —	60 43	— —	55 39	— —	— —	27 19	22 16	12.5 9	9.9 7.1		**Net:** 365 lb (166 kg)
	DC	Low: 35–155 High: 90–265	79	225 A at 29 V, 175 A at 27 V	— —	66 45	— —	60 41	— —	— —	30 21	24 16	13.7 9.5	10.8 7.7		**Ship:** 375 lb (171 kg)
50 Hz, With	**AC**	Low: 35–165 High: 105–300	70	225 A at 29 V, 175 A at 27 V	— —	— —	62 46	— —	36 27	31 23	— —	— —	13.7 10.2	10.2 7.2		**Net:** 365 lb (166 kg)
	DC	Low: 35–155 High: 90–265	79	225 A at 29 V, 175 A at 27 V	— —	— —	73 52	— —	42 30	36 26	— —	— —	16 11.4	12.2 8.3		**Ship:** 375 lb (171 kg)

Rated output at low welding amperage ranges is **30% duty cycle. Rated output at high welding amperage ranges is **50% duty cycle**.*

Certified to both the Canadian and U.S. Standards for welding equipment.

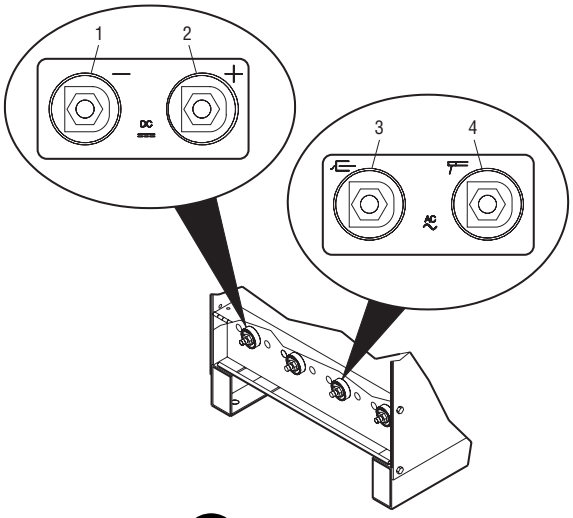
Control Panel

1. Amperage Adjustment Control
2. Range Selector Switch
3. Circuit Breaker CB1
4. Power Switch

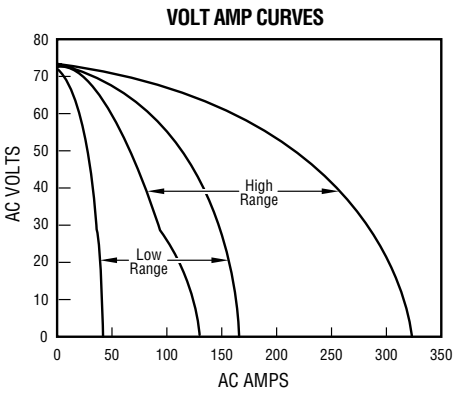


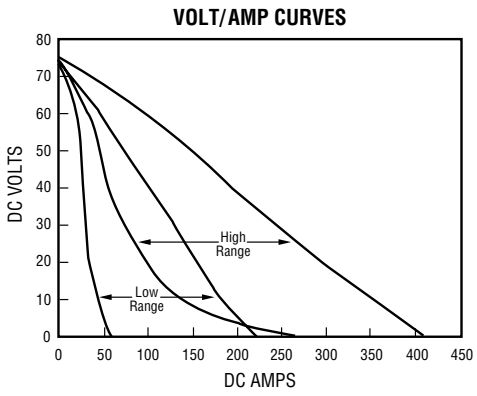
For DC Weld Output
1. Negative (-) Weld Output Terminal
2. Positive (+) Weld Output Terminal

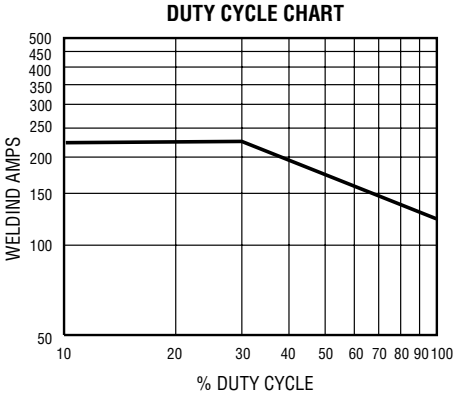
For AC Weld Output
3. Work Weld Output Terminal
4. Electrode Weld Output Terminal



Performance Data







Genuine Miller Accessories

No. 2 Stick Cable Set, 15 ft #195 196
Consists of 15 ft (4.6 m) No. 2 electrode cable and holder, and 15 ft (4.6 m) work cable and clamp. 200 A, 100% duty cycle.

No. 2 Stick Cable Set, 50 ft #195 195
Consists of 50 ft (15.2 m) No. 2 electrode cable and holder, and 50 ft (15.2 m) work cable and clamp. 200 A, 100% duty cycle.

RF-10 Remote Current Control Facilities
#041 111 Field
Includes receptacle, remote-standard switch and wiring.

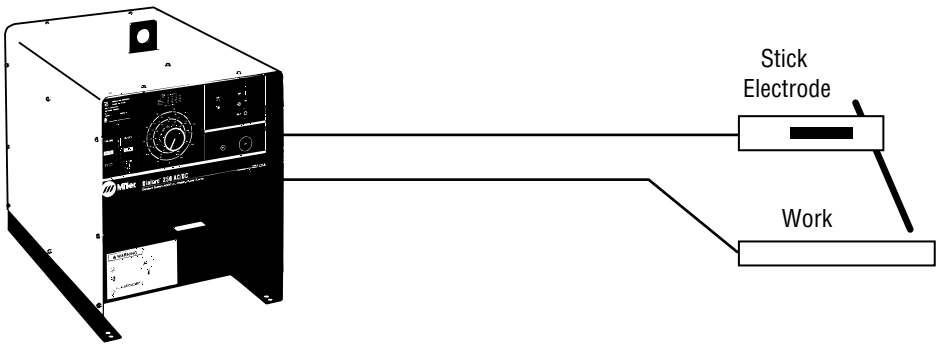
RHC-3 Remote Hand Amperage Control
Requires RF-10 Remote Current Control Facilities.
#040 056 20 ft (6 m) cord and plug
#195 354 100 ft (30.5 m) cord and plug

RFC-23A #040 071
Requires RF-10 Remote Current Control Facilities. Remote foot amperage control with 20 ft (6 m) cord and plug.

No. 19 Running Gear #041 580
Four 8 in (203 mm) poly/rubber blend wheels with 30 in (762 mm) towing handle. All running gear shipped unassembled.

Typical Installations

Stick (SMAW) Basic Equipment



Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Dialarc® 250 AC/DC	**#907 017** **#907 016**	200/230/460, 60 Hz 230/460/575, 60 Hz		
Dialarc® 250P AC/DC	**#907 047**	220/380/440, 50 Hz		
Dialarc® 250P AC/DC	**#907 015**	200/230/460/575, 60 Hz		
No. 19 Running Gear	**#041 580**			
Accessories				
No. 2 Stick Cable Set	**#195 196** **#195 195**	Includes 15 ft (4.6 m) No. 2 electrode cable and holder, 15 ft (4.6 m) work cable and clamp Includes 50 ft (15.2 m) No. 2 electrode cable and holder, 50 ft (15.2 m) work cable and clamp		
RF-10	**#041 111**	Remote current control facilities, field only		
RHC-3	**#040 056** **#195 354**	Remote hand amperage control with 20 ft (6 m) cord Remote hand amperage control with 100 ft (30.5 m) cord		
RFC-23A	**#040 071**	Remote foot amperage control		
Miscellaneous				
Stick Electrodes				
Helmet/Gloves/Scratch Brush				
Chipping Slag Hammer				
Other				

Date: **Total Quoted Price:**

Distributed by:

Miller®

Litho in USA

Thunderbolt® XL AC/DC

Issued March 2005 • Index No. AD/8.0

Stick Welding Power Source

Quick Specs

Light Industrial Applications
Garage/Job Shops
Plant Fabrication/Maintenance
Vocational Training
Light Production-line Work

Processes
Stick (SMAW)

Input Power 1-Phase Power

Amperage Range
225 AC/150 DC: HIGH 40–235 A (AC), LOW 30–150 A (AC) 30–160 (DC)
300 AC/200 DC: HIGH 65–300 A (AC), LOW 40–200 A (AC) 30–160 (DC)

Max. Open-Circuit Voltage 80

The Power of Blue®

Infinite current control allows the operator to adjust output by as little as 1-amp increments. Users can always get the exact heat they need, unlike the step control design on competitive products.

High 100% duty cycle rating:
100 amps AC/65 amps DC for the 225 AC/150 DC amp model.
130 amps AC/90 amps DC for the 300 AC/200 DC amp model.

The exclusive **patented Accu-Set™** provides precise heat control with infinite amperage control.

High DC weld output: up to 150 amps for the 225 AC/150 DC model, and up to 200 amps for the 300 AC/200 DC model, available at 20% duty cycle. Thunderbolt XL 225 AC/150 DC model has 20% more DC output than competitive products.

Comes Complete With:
Power source with 15 ft (4.5 m) electrode cable, electrode holder, 10 ft (3 m) work cable with clamp, and power cord (without plug).
Note: Thunderbolt XL 225 AC/150 DC (#903 642) includes 230 V plug. Models do not include wall receptacle.

Output selector switch allows you to quickly select AC, DCEP or DCEN without adjusting the output leads.

Fully varnished magnetic coils: varnish protects and lengthens the life of the coils inside.

Forced-draft cooling fan runs continuously and helps to extend the life of the power source.

Specifications (Subject to change without notice.)

CC | AC/DC | 1 Phase

Model		Rated Output at 20% Duty Cycle	Welding Amperage Range High	Low	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50 or 60 Hz 220 V	230 V	Dimensions	Net Weight
Thunderbolt XL 225 AC/150 DC	AC	225 A at 25 VAC, 60 Hz (15% Duty Cycle at 50 Hz)	40–235	30–150	80	—	47.5	H: 18-3/4 in (476 mm) W: 12-3/4 in (323 mm) D: 17-1/2 in (445 mm)	104 lb (47 kg)
	DC	150 A at 25 VDC, 60 Hz (15% Duty Cycle at 50 Hz)	30–160						
Thunderbolt XL 300 AC/200 DC	AC	300 A at 30 VAC, 50/60 Hz	65–300	40–200		70	—		134 lb (61 kg)
	DC	200 A at 25 VDC, 50/60 Hz	30–200						

TRUE BLUE® 3YR. WARRANTY

Power source is warranted for 3 years, parts and labor.
Original main power rectifiers are warranted for 5 years.

MADE IN USA

Miller®

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An Illinois Tool Works Company
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Web Site
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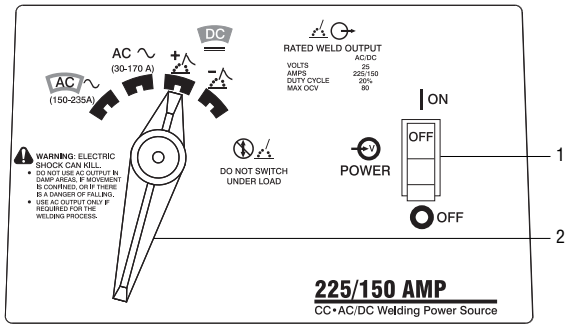
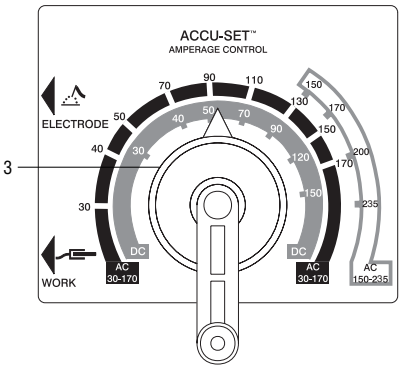
ISO 9001:2000 REGISTERED QUALITY SYSTEM

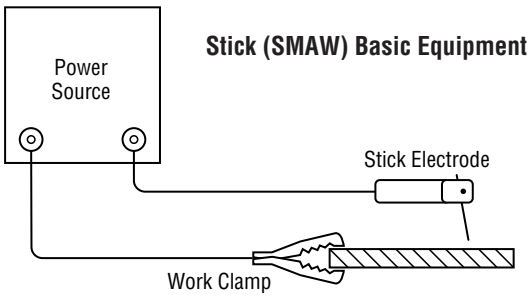
Control Panel





1. Power Switch
2. Selector Switch
3. Amperage Adjustment Control

Typical Installation



Electrode Charts

ELECTRODE POLARITY CHART

ELECTRODE	DC*	AC	POSITION	PENETRATION	USAGE
6010	EP	—	ALL	DEEP	MIN. PREP, ROUGH, HIGH SPATTER
6011	EP	✓	ALL	DEEP	
6013	EP, EN	✓	ALL	LOW	GENERAL
7014	EP, EN	✓	ALL	MED.	SMOOTH, EASY, FAST
7018	EP	✓	ALL	LOW	LOW HYDROGEN, STRONG
7024	EP, EN	✓	FLAT HORIZ. FILLET	LOW	SMOOTH, EASY, FASTER
Ni-Cl	EP	✓	ALL	LOW	CAST IRON
308L	EP	✓	ALL	LOW	STAINLESS

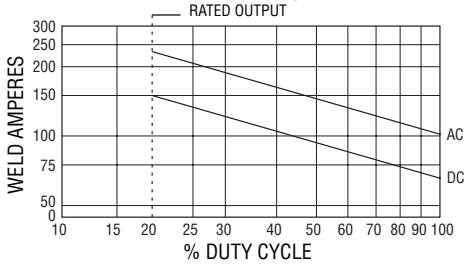
*EP = ELECTRODE POSITIVE (REVERSE POLARITY)
EN = ELECTRODE NEGATIVE (STRAIGHT POLARITY)

ELECTRODE/AMPERAGE CHART

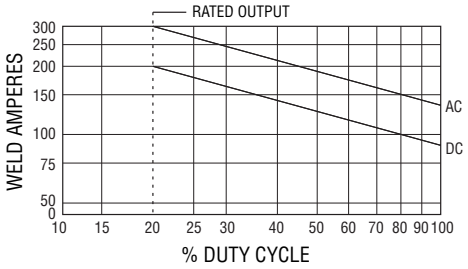
ELECTRODE	DIAMETER IN	DIAMETER MM	AMPERAGE RANGE MIN. 50A 100A 150A 200A MAX.
6010 & 6011	3/32 1/8 5/32 3/16	2.4 3.2 4.0 4.8	
6013	1/16 5/64 3/32 1/8 5/32 3/16	1.6 2.0 2.4 3.2 4.0 4.8	
7014	3/32 1/8 5/32	2.4 3.2 4.0	
7018	3/32 1/8 5/32	2.4 3.2 4.0	
7024	3/32 1/8 5/32	2.4 3.2 4.0	
Ni-Cl	3/32 1/8 5/32 3/16	2.4 3.2 4.0 4.8	
308L	3/32 1/8 5/32	2.4 3.2 4.0	

Performance Data

DUTY CYCLE – FOR 225 AC/150 DC MODELS



DUTY CYCLE – FOR 300 AC/200 DC MODELS



Ordering Information

Power Source	Stock No.	Description	Qty.	Price
Thunderbolt® XL 225 AC/150 DC	**#903 642***	230 V, 50/60 Hz. Includes 5 ft (1.5 m) power cord w/230 V plug		
Thunderbolt® XL 300 AC/200 DC	**#903 686**	220 V, 50/60 Hz. Includes 7 ft (2.1 m) power cord		
Running Gear	**#043 927**	Mounts easily to unit and provides convenient portability. Includes two wheels, two feet and handle.		
Miscellaneous				
Stick Electrodes		See charts above		
Helmet/Gloves/Scratch Brush				
Chipping Slag Hammer				
Wall Receptacle				

Date: **Total Quoted Price:**

* *Certified to both the Canadian and U.S. Standards for welding equipment.*

Distributed by:

Miller®

Litho in USA

Maxstar® 150 S

Issued Feb. 2008 • Index No. DC/27.0

Stick Welding Power Source

Quick Specs

Light Industrial Applications
Maintenance Repair
Shipboard Installation/Repair
Farm/Ranch
Hobbyist

Process
Stick (SMAW)

Input Power 1-Phase Power

Amperage Range 115 VAC: 20–100 A (DC)
230 VAC: 20–150 A (DC)

Max. Open-Circuit Voltage 90

Weight 13.2 lb (6.0 kg)

The Power of Blue®

AUTO-LINE™ Power Management Technology

Auto-Line™ provides state-of-the-art flexibility to the end user. The Auto-Line circuitry automatically connects to 115–230 VAC, single-phase power without removing the covers to relink the power source. No longer is there a concern if you have the correct machine for the shop or job site.

Miller's exclusive **multi-voltage plug (MVP™)** allows connection to 115 or 230 V receptacles without tools—choose the plug that fits the receptacle and connect it to the power cord.

Portable in the shop or at the job site—at 13.2 lb the shoulder strap allows the end user to easily move from location to location.

Thermal overload protection with indicator light helps prevent machine damage if the duty cycle is exceeded or airflow is blocked.

Single amperage range allows operator to accurately set amperage on both 115 or 230 V primary power.

Maxstar® 150 S with X-CASE™ (#907 134-01-2) comes complete with:
- Maxstar 150 S (Stick only)
- 10 ft (3 m) MVP power cord
- MVP™ plugs 5-15P (115 V, 15 A) and 6-50P (230 V, 50 A)
- X-CASE™ provides protection in transport and storage
- 13 ft (4 m) Stick electrode holder with 25 mm Dinse connector
- 10 ft (3 m) work clamp with 25 mm Dinse connector
- Shoulder strap

Inverter-based, DC power source has a **simple-to-use operator interface** providing only the necessary controls in a compact machine.

Adaptive Hot Start™ for Stick arc starts automatically increases the output amperage at the start of a weld should the start require it. Prevents the electrode from sticking and creating an inclusion.

Low OCV Stick is a simple design that reduces the open-circuit voltage to 12–16 volts when the welding power source is not in use. This circuit design is now built into the Maxstar 150 S eliminating the need for add-on voltage reducers.

Best in class Stick arc characteristics for those demanding jobs.

Power Factor Corrected (PFC) for optimum performance especially on 115 V—reduces nuisance breaker tripping.

Fan-On-Demand™ power source cooling system operates only when needed, reducing noise, energy use and the amount of contaminants pulled through the machine.

TRUE BLUE® 3YR. WARRANTY

Power source is warranted for 3 years, parts and labor.
Original main power rectifiers are warranted for 5 years.

MADE IN USA
APPLETON, WI

Miller®

Miller Electric Mfg. Co.
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

International Headquarters
Phone: 920-735-4505
USA FAX: 920-735-4134
Canadian FAX: 920-735-4169
International FAX: 920-735-4125

Web Site
www.MillerWelds.com

ISO 9001:2000 REGISTERED QUALITY SYSTEM

Specifications (Subject to change without notice.)

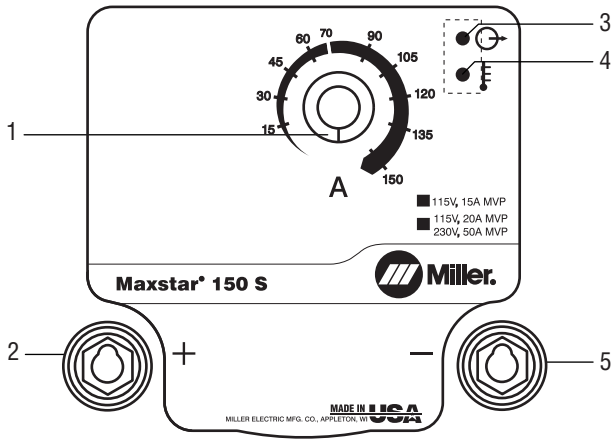
CC DC 1 Phase

Input Power	Welding Amperage Range	Rated Output	Amps Input at Rated Output, 50/60 Hz	KVA at Duty Cycle	KW	Max. Open-Circuit Voltage	Dimensions	Weight
115 VAC 15 A	20–70 A	70 A at 22.8 VDC, 100% Duty Cycle	17.4	2.0	1.9	90, 12–16 V*	H: 9 in (229 mm) W: 5-1/2 in (140 mm) D: 13-1/4 in (337 mm)	13.2 lb (6.0 kg)
115 VAC 20 A	20–100 A	70 A at 22.8 VDC, 100% Duty Cycle	17.4	2.0	1.9	90, 12–16 V*		
		100 A at 24.0 VDC, 35% Duty Cycle	26.4	3.0	3.0			
230 VAC	20–150 A	100 A at 24.0 VDC, 100% Duty Cycle	13.1	3.0	2.8	90, 12–16 V*		
		150 A at 26.0 VDC, 30% Duty Cycle	21.6	4.9	4.7			

**Sense voltage for Stick.*

Certified by Canadian Standards Association to both Canadian and U.S. Standards.

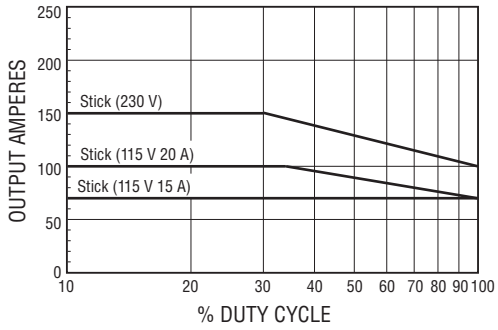
Control Panel



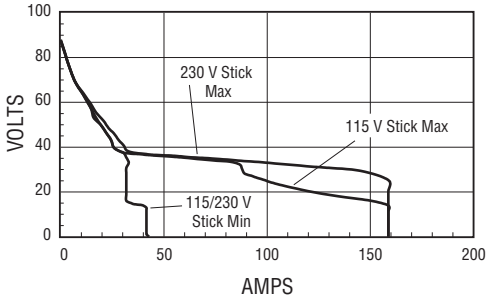
1. Amperage Adjustment Control
2. Positive Weld Output Receptacle
3. Ready Light
4. Overtemperature Light
5. Negative Weld Output Receptacle

Performance Data

DUTY CYCLE CHART



VOLT/AMP CURVES



Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
Maxstar® 150 S (only)	**#907 134**	Single-phase, 115–230 VAC, 50/60 Hz, includes 13 ft (4 m) electrode holder, 10 ft (3 m) work clamp, shoulder strap, primary cord and MVP plugs		
Maxstar® 150 S with X-CASE™	**#907 134-01-2**	Includes #907 134 plus carrying case		
Accessories				
X-CASE™ (only)	**#300 184**	Carrying case for Maxstar 150		

Date: **Total Quoted Price:**

Miller®

Distributed by:

Litho in USA

Maxstar® 200 STR

Issued September 2003 • Index No. DC/29.5

Stick/TIG Welding Power Source

Quick Specs

Industrial Applications
Petro/Chem Fabrication
Mechanical Contractors
Shipboard Installation
Mining
Process Piping
MRO

Processes
Stick (SMAW) Lift Stick
TIG (GTAW) Lift-Arc

Input Power Requires 1- or 3-Phase Power

Amperage Range 5–200 A

Max. Open-Circuit Voltage 80

Weight 32 lb (14.5 kg)

The Power of Blue®

Easy installation — Auto-Line™ provides state-of-the-art flexibility to the end user. The Auto-Line circuitry automatically connects to 120–460 VAC, single- or three-phase power without removing the covers to relink the power source. No longer is there a concern if you have the correct machine for shop or the job site.

NEW! **Low OCV Stick** is a simple design that reduces the open-circuit voltage to 13 volts when the welding power source is not in use. This circuit design is now built into the Maxstar 200 STR eliminating the need for add-on voltage reducers.

Adaptive Hot Start™ for Stick arc starts automatically increases the output amperage at the start of a weld should the start require it. Prevents the electrode from sticking and creating an inclusion.

Optional 4-pack racks are available for multiple operator applications. These are commonly used in construction and shipyard applications.

Includes two International-style connectors 35/50.

Superior Stick arc performance on all input voltages. Even on the difficult-to-run electrodes like E6010.

Lift-Arc™ start provides TIG arc starting without the use of high frequency.

Portable in the shop or at the job site — at 32 lb the Maxstar 200 STR easily moves from location to location.

Inverter-based, DC power source has a **simple-to-use operator interface** providing only the necessary controls in a compact machine.

DIG control allows the arc characteristics to be changed for specific applications and electrodes. Lower the DIG setting for smooth running electrodes like E7018 and increase the DIG setting for stiffer, more penetrating electrodes like E6010.

Remote amperage control provided through 14-pin receptacle on front of the machine. This permits use of standard remote amperage control devices.

TRUE BLUE® 3YR. WARRANTY

Power source is warranted for 3 years, parts and labor.
Original main power rectified parts are warranted for 5 years.

MADE IN USA
APPLETON, WI

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Web Site
www.MillerWelds.com

ISO 9001:2000 REGISTERED QUALITY SYSTEM

Specifications (Subject to change without notice.)

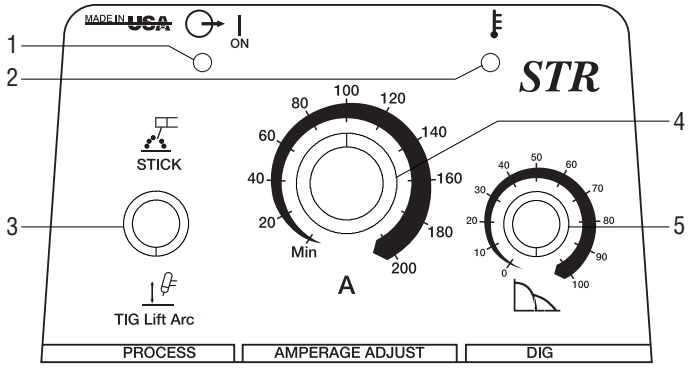
Welding Mode	Input Power	Rated Output	Welding Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Load Output, 50/60 Hz, 120 V	200 V	230 V	400 V	440 V	460 V	KVA	KW	Dimensions	Net Weight
Stick (SMAW)	3-Phase	150 A at 26 V, 60% Duty Cycle	120 VAC, 1–90 A	80 VDC, 9–14 VDC**	— —	14.7 0.16*	13.1 0.16*	7.4 0.24*	6.6 0.24*	6.4 0.25*	5.2 0.06*	5.0 0.03*	H: 13-1/2 in (343 mm) W: 7-1/2 in (191 mm) D: 17-1/2 in (445 mm)	32 lb (14.5 kg)
	1-Phase	150 A at 26 V, 60% Duty Cycle	200–460 VAC, 1–200 A		— —	24.9 0.25*	21.7 0.23*	— —	— —	— —	5.0 0.05*	5.0 0.02*		
		125 A at 25 V, 50% Duty Cycle			34.1 0.42*	19.6 0.25*	17.2 0.23*	— —	— —	— —	4.0 0.05*	3.8 0.03*		
		90 A at 24 V, 100% Duty Cycle			25.0 0.42*	— —	— —	— —	— —	— —	4.0 0.05*	3.8 0.03*		
TIG (GTAW)	3-Phase	175 A at 17 V, 60% Duty Cycle	120 VAC, 1–140 A	80 VDC	— —	12.1 0.16*	10.5 0.16*	6.0 0.24*	5.3 0.24*	5.2 0.25*	4.2 0.06*	4.0 0.03*		
	1-Phase	175 A at 17 V, 60% Duty Cycle	200–460 VAC, 1–200 A		— —	19.9 0.25*	17.4 0.23*	— —	— —	— —	4.0 0.05*	4.0 0.02*		
		150 A at 16 V, 70% Duty Cycle			29.7 0.42*	17.1 0.25*	14.1 0.23*	— —	— —	— —	3.4 0.05*	3.4 0.03*		
		110 A at 15 V, 100% Duty Cycle			20.0 0.42*	— —	— —	— —	— —	— —	2.0 0.05*	2.0 0.03*		

** Indicates idle draw. ** Sense voltage for Stick and Lift-Arc TIG.*

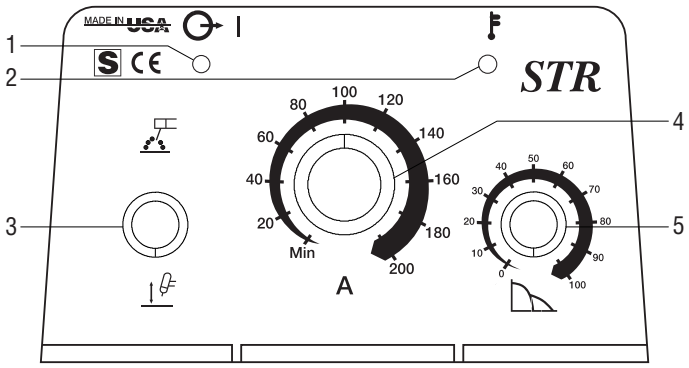
CSA applied for. *Models with CE specifications are available and manufactured according to the Standards IEC-974-1 and EN-60974-1.*

Control Panel

Maxstar 200 STR



Maxstar 200 STR (CE)



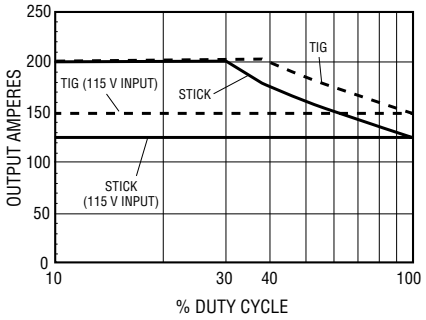
1. Output Light
2. Overtemp Light
3. Weld Process Selector Switch
4. Amperage Adjustment Control
5. Dig Adjustment Control

Control Panel Parameter Values

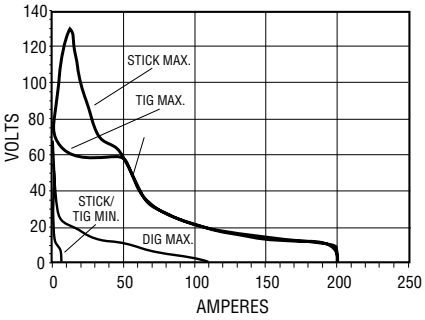
A. Amperage (A) 5–200 **B.** Dig Control (%) 1–100

Performance Data

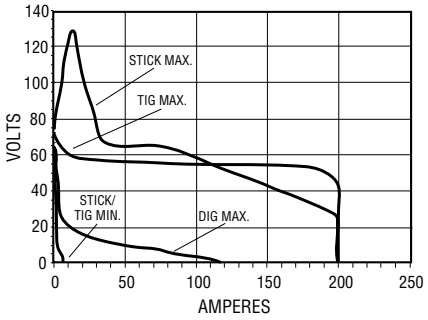
DUTY CYCLE CHART



115 VAC INPUT



OTHER INPUT VOLTAGES



Genuine Miller Accessories

Miller DIAMOND BACK™ TORCHES

TIG (GTAW) Torches

Diamondback™ TIG Torches
The NEW Diamondback line of ergonomically designed TIG torches from Miller Electric complements the most popular TIG power source line available today. The Diamondback torch line includes both air-cooled and water-cooled models. The air-cooled models range in size from 125 to 200 A. The water-cooled models include 250 and 350 A torches. All models are standard with a rigid head. See Diamondback TIG Torch Selector Guide.

TIG (GTAW) Torch Adapters

DA-917F #194 720
Used to adapt a 1-piece 125 or 150 amp air-cooled torch to an International-style connector.

DA-26R #194 724
Used to adapt a 1-piece 200 amp air-cooled torch to an International-style connector.

DA-1820L #190 219
Used to adapt a 250 or 350 amp water-cooled torch to an International-style connector.

Remote Controls

RCC-14 Remote Contactor and Current Control #151 086 14-pin plug
Side-to-side rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Includes 28 ft (8.5 m) control cord. Great for production or contractors that need quick ramp-up.

RCCS-14 Remote Contactor and Current Control #043 688
Up-and-down rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Includes 28 ft (8.5 m) control cord. Great for applications that require a finer amperage control.

RFCS-14 HD Foot Control #194 744
New design with larger, more stable base and heavier cord that can exit front, back or sides of pedal. Provides remote current and contactor control and includes 20 ft (6 m) cord and 14-pin plug.

RHC-14 Hand Control #129 340
Miniature hand control for remote current and contactor control. Dimensions: 4 x 4 x 3-1/4 in (102 x 102 x 82 mm). Includes 20 ft (6 m) cord and 14-pin plug.

International-Style Connectors (Will accept Dinse™ or other international connectors.)

Note: All Maxstar power sources are equipped with International-style connectors for secondary connections. (Power source is shipped with two 50-mm male International-style plugs for use with #1 or #2 AWG size cable.)

International-Style Connector Kit #042 418 50 mm
Accepts #1 or #2 AWG cable size. Required if male plugs shipped with power source must be replaced or if additional plugs are needed. Kit includes one International-style male plug which attaches to the work and/or weld cables and plugs into the International-style receptacles on the power source.

Extension Kit for International-Style Cable Connectors #042 419 50 mm
Accepts #1 or #2 AWG size cable. Used to adapt or extend weld and/or work cables. Kit includes one male International-style plug and one in-line female International-style receptacle.

International/Tweco® Adapter #042 465
A one-piece adapter which has an International-style male plug (to power source) on one end and a female Tweco receptacle (for weld cable connection) on other end.

International/Cam-Lok Adapter #042 466
A one-piece adapter which has an International-style male plug (to power source) on one end and a Cam-Lok receptacle (for weld cable connection) on other end.

CST™ (Maxstar®) Rack

- Rugged enclosure provides a simple means for protecting and transporting multiple welding power sources for construction, power plant turn-arounds, and shipbuilding applications.
- Light weight and small footprint for easy transportation. Low weight enables the use of elevators to move the rack.
- Top cover protects machines from falling debris.
- Lifting eye simplifies transportation using crane or overhead lifting device.
- Lift truck side and end fork pockets.
- One main disconnect box with fused circuit breaker switches for each machine.
- Common output ground connection (for same polarity use only).

CST Rack Specifications (Subject to change without notice.)

Power Source Used	Input Power to Rack	Rack Capacity	Dimensions	Net Weight
Maxstar 200 STR	230–460 V, 60 Hz, Three-Phase	4	H: 59-3/8 in (1508 mm) W: 43 in (1092 mm) D: 34-3/8 in (873 mm)	298 lb (135 kg)

Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
Maxstar® 200 STR	**#907 036** **#907 037**	120–460 VAC, 50/60 Hz 120–460 VAC, 50/60 Hz, **CE**		
CST™ (Maxstar) Rack	**#195 051** **#907 079**	Empty Rack With four Maxstar 200 STRs for 230–460 V		
TIG Accessories				
Diamondback™ TIG Torches		See Diamondback TIG Torch Selector Guide		
TIG Torch Adapters	**#194 720** **#194 724** **#190 219**	DA-917F DA-26R DA-1820L		
Consumables/Tungsten		See Parts Guide		
Gas Cylinder/Hose and Fittings				
Remote Controls				
RCC-14	**#151 086**	Remote current side-to-side rotary control		
RCCS-14	**#043 688**	Remote current up and down rotary control		
RFCS-14 HD	**#194 744**	Remote current foot pedal control		
RHC-14	**#129 340**	Remote current hand control		
International-Style Connectors				
International-Style Connector Kit	**#042 418**	50 mm		
Extension Kit for International-Style	**#042 419**	50 mm		
International/Tweco® Adapter	**#042 465**	A one-piece adapter with International-style male plug		
International/Cam-Lok Adapter	**#042 466**	A one-piece adapter with International-style male plug		

Date: **Total Quoted Price:**

Distributed by:

Miller®

Litho in USA

CST™ 280

Issued Feb. 2008 • Index No. DC/29.55

Stick/TIG Welding Power Source

Quick Specs

Industrial Applications
Power Plant Construction
Petrochemical Construction
Maintenance and Repair
Shipbuilding

Processes
Stick (SMAW)
TIG (GTAW) Lift-Arc

Input Power Requires 3- or 1-Phase Power

Amperage Range 5–280 A

Max. Open-Circuit Voltage 79 V

Weight 41 lb (18.6 kg)

The Power of Blue®

New!

Superior Stick arc performance even on the difficult-to-run electrodes like E6010.

Adaptive Hot Start™ for Stick arc starts automatically increases the output amperage at the start of a weld should the start require it. Prevents the electrode from sticking and creating an inclusion.

Lift-Arc™ start provides TIG arc starting without the use of high frequency.

Easy To Install with a new switch on the outside of the package, the machine can be changed between low and high input voltage ranges. Also, since the switch is on the back, input voltages can be changed without removal from inverter racks.

Optional 4- or 8-pack racks are available for multiple operator applications. These are commonly used in construction and shipyard applications. All CST controls including the power switch are located on front of the machine for easy access.

Portable in the shop or at the job site—at 41 lb the CST 280 is easily moved from location to location.

Remote amperage control provided through 14-pin receptacle on front of the machine. This permits use of standard remote amperage control devices.

Tweco® or Dinse-style connectors are available on the CST 280.

6 ft power cable included.

TRUE BLUE® 3YR. WARRANTY

Power source is warranted for 3 years, parts and labor.
Original main power rectified parts are warranted for 5 years.

MADE IN USA
APPLETON, WI

Miller Electric Mfg. Co.
An Illinois Tool Works Company
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International FAX: 920-735-4125

Web Site
www.MillerWelds.com

ISO 9001:2000 REGISTERED QUALITY SYSTEM

Specifications (Subject to change without notice.)

CC DC 3 Phase 1 Phase

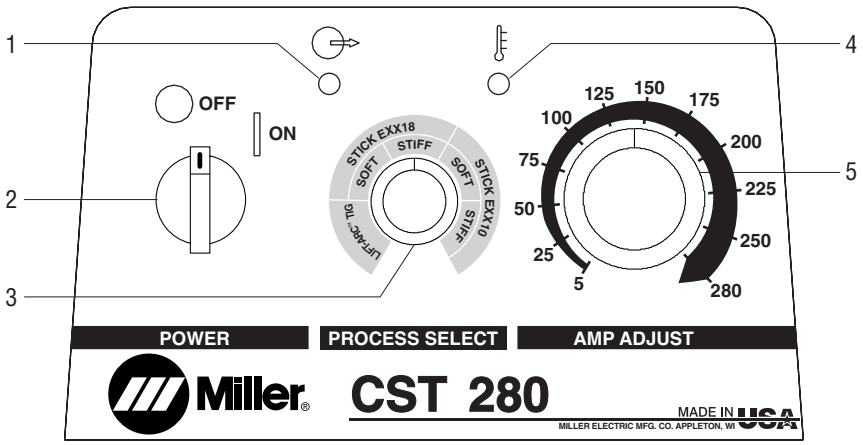
Description	Welding Mode	Input Power	Rated Output	Welding Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Load Output, 50/60 Hz, 208 V	220 V	230 V	400 V	440 V	460 V	575 V	KVA	KW	Dimensions	Net Weight
CST-280, 220-230/460-575 Dinse CST-280, 220-230/460-575 Tweco	Stick (SMAW) TIG (GTAW)	3-Phase	280 A at 31.2 V, 35% Duty Cycle	5–280 A	77 VDC	—	35	34.2	—	—	17.8	14.7	14.6	10.2	H: 13-1/2 in (343 mm) W: 7-1/2 in (191 mm) D: 18 in (457 mm)	41 lb (18.6 kg)
			200 A at 28 V, 100% Duty Cycle			—	23.3	22.5	—	—	11.7	9.7	9.6	6.4		
		1-Phase	200 A at 28 V, 50% Duty Cycle*	5–200 A		—	43.9	43	—	—	—	—	10.1	6.6		
			150 A at 26 V, 100% Duty Cycle*			—	32.7	32	—	—	—	—	7.3	4.6		
CST-280, 208-230/400-460 Dinse CST-280, 208-230/400-460 Tweco	Stick (SMAW) TIG (GTAW)	3-Phase	280 A at 31.2 V, 35% Duty Cycle	5–280 A	67 VDC	36	33	22.8	19.8	18	17.5	—	14	10.2	H: 13-1/2 in (343 mm) W: 7-1/2 in (191 mm) D: 18 in (457 mm)	41 lb (18.6 kg)
			200 A at 28 V, 100% Duty Cycle			23.5	23	22.8	13.5	12	12.7	—	10.2	6.9		
		1-Phase	200 A at 28 V, 50% Duty Cycle*	5–200 A		43.9	43.3	43	—	—	—	—	9.9	6.5		
			150 A at 26 V, 100% Duty Cycle*			35	—	32.9	—	—	—	—	7.6	4.8		

** Output ratings on 230 V single-phase are reduced to comply with CSA current limitation on input power cable.*

CSA approval. 1P23M approval.

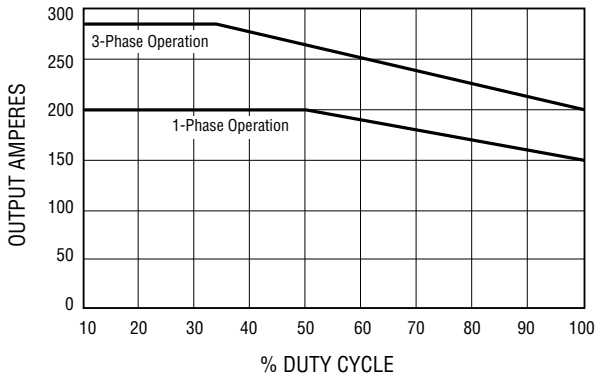
Control Panel

1. Output Light
2. On/Off Switch
3. Weld Process Selector Switch
4. Overtemp Light
5. Amperage Adjustment Control (5–280 Amps)

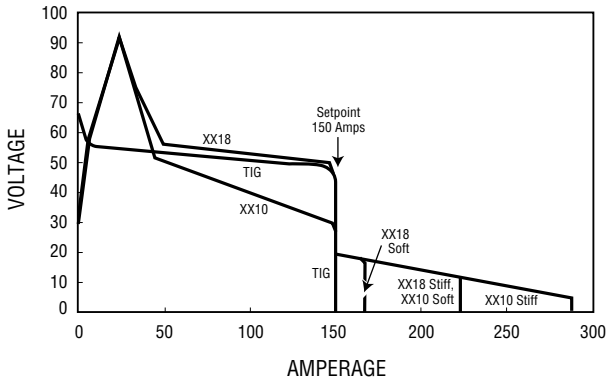


Performance Data

DUTY CYCLE CHART



VOLT/AMP CURVE AT 150 AMPS



Miller

Genuine Miller Accessories

TIG (GTAW) Torches

Weldcraft® TIG Torches
The Weldcraft line of TIG torches complements the most popular TIG power source line available today. The Weldcraft torch line includes both air-cooled and water-cooled models. Available with genuine Weldcraft parts.

#WP-17V-12-2 150 A, 12 ft (3.7 m) air-cooled torch with valve, two-piece cable.

#WP-17V-25-2 150 A, 25 ft (7.6 m) torch with valve, two-piece cable.

#WP-26V-12-2 200 A, 12 ft (3.7 m) air-cooled torch with valve

#WP-26V-25-2 200 A, 25 ft (7.6 m) air-cooled torch with valve

These two-cable TIG torches require the installation of a Dinse Connector (042418) or Tweco Style Connector (195115) depending on the CST Model Connector Type.

Remote Controls

RCC-14 Remote Contactor and Current Control* #151 086 14-pin plug
Side-to-side rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Includes 28 ft (8.5 m) control cord. Great for production or contractors that need quick ramp-up.

RCCS-14 Remote Contactor and Current Control* #043 688
Up-and-down rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Includes 28 ft (8.5 m) control cord. Great for applications that require a finer amperage control.

RFCS-14 Foot Control* #043 554
Foot pedal provides remote current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.

RHC-14 Hand Control* #129 340
Miniature hand control for remote current and contactor control. Dimensions: 4 x 4 x 3-1/4 in (102 x 102 x 82 mm). Includes 20 ft (6 m) cord and 14-pin plug.

RFCS-14 HD Foot Control* #194 744
For all Miller solid-state power sources after serial number JK674521. This new design increases stability with a larger base, and durability with a heavier cord. Maximum flexibility is accomplished with a reconfigurable cord that can exit the front, back or either side of the pedal. Foot pedal provides remote current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.

**Note: The remote controls provide amperage control only on the CST 280, no remote contactor control.*

Cable Connectors and Adapters

Note: The Dinse version of the CST 280 includes one set of male connectors. The tweco version does not.

International-Style Connector #042 418 50 mm
Accepts #1 or #2 AWG cable size. Required if male plugs shipped with power source must be replaced or if additional plugs are needed. Kit includes one International-style male plug which attaches to the work and/or weld cables and plugs into the International-style receptacles on the power source.

Extension Kit for International-Style Cable Connectors #042 419 50 mm
Accepts #1 or #2 AWG size cable. Used to adapt or extend weld and/or work cables. Kit includes one male International-style plug and one in-line female International-style receptacle.

International/Tweco® Adapter #042 465
A one-piece adapter which has an International-style male plug (to power source) on one end and a female Tweco receptacle (for weld cable connection) on other end.

International/Cam-Lok Adapter #042 466
A one-piece adapter which has an International-style male plug (to power source) on one end and a Cam-Lok receptacle (for weld cable connection) on other end.

Tweco/Dinse Adapter #195 116
A one-piece adapter which has a Tweco-style male plug (to power source) on one end and a female Dinse or International-style receptacle (for weld cable connection) on other end.

Tweco-Style Connector 50 mm #195 115
Accepts #1 or #2 AWG cable size. Kit includes one Tweco-style male plug which attaches to the work and/or weld cables and plugs into the receptacle on the power source.

CST™ 280 Rack (See Index No. DC/18.82 for additional information.)

Shown with optional running gear.

- The rack provides a simple means of protecting and transporting welding power sources for construction, power plant turn-arounds, and shipbuilding applications.
- The CST™ 280 Rack's low weight (340 lb fully loaded) enables use of elevators to move the rack.
- Top cover to protect the machines from falling debris.
- Meets NEC requirements with appropriate fuses.
- Lift truck side and end fork pockets.
- Lifting eye simplifies transportation using crane or overhead lifting device.
- One main disconnect box with fused circuit breaker switches for each machine.
- Common output ground connection (for same polarity use only).
- CSTs can be paralleled for Air Carbon Arc cutting.
- Running gear (optional).

CST Rack Specifications (Subject to change without notice.)

Power Source	Input Power to Rack	Capacity	Dimensions	Net Weight
CST 280	220/230/460/575 VAC, 60 Hz, 3-Phase	4	H: 50-3/4 in (1289 mm) W: 25-1/2 in (648 mm) D: 26-1/2 in (673 mm)	355 lb (161 kg)
		8	H: 50-3/4 in (1289 mm) W: 46 in (1165 mm) D: 26-1/2 in (673 mm)	640 lb (290 kg)

Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
CST™ 280 w/ Dinse-style connectors*	**#907 244**	220-230/460–575 VAC, 50/60 Hz		
CST™ 280 w/ Tweco-style connectors*	**#907 244-01-1**	220-230/460–575 VAC, 50/60 Hz		
CST™ 280 w/ Dinse-style connectors*	**#907 251**	208-230/400–460 VAC, 50/60 Hz		
CST™ 280 w/ Tweco-style connectors*	**#907 251-01-1**	208-230/400–460 VAC, 50/60 Hz		
Power Source Racks and Options				
CST™ 280 Rack w/ Dinse-style connectors*	**#907 245**	Rack with 4 CST 280, 220/230/460/575 VAC (Includes 25 A fuses for 460 V)		
CST™ 280 Rack w/ Tweco-style connectors*	**#907 247**	Rack with 4 CST 280, 220/230/460/575 VAC (Includes 25 A fuses for 460 V)		
CST™ 280 Rack w/ Tweco-style connectors*	**#907 365**	Rack with 8 CST 280, 220/230/460/575 VAC (Includes 25 A fuses for 460 V)		
Running Gear for Rack	**#195 114** **#195 436**	For 4-Pack Rack For 8-Pack Rack		
Fuse	**#199 795** **#212 541**	30 amp fuse for 220 or 230-volt input (Order 12 per 4-pack rack) 20 amp fuse for 575-volt input (Order 12 per 4-pack rack)		
TIG Accessories				
Weldcraft® TIG Torches		See page 3		
Remote Controls				
RHC-14 Remote Control	**#129 340**	Remote current hand control		
RCC-14	**#151 086**	Remote current side-to-side rotary control		
RCCS-14	**#043 688**	Remote current up and down rotary control		
RFCS-14	**#043 554**	Remote current foot pedal control		
RFCS-14 HD	**#194 744**	Remote current foot pedal control with 20 ft (6 m) cord and 14-pin plug		
Extension Cord for Remote Controls	**#122 973** **#122 974** **#122 975**	25 ft (7.6 m) 50 ft (15.2 m) 75 ft (22.8 m)		
Cable Connectors and Adapters				
International-Style Connector	**#042 418**	50 mm		
Extension Kit for International-Style	**#042 419**	50 mm		
International/Tweco® Adapter	**#042 465**	A one-piece adapter with International-style male plug		
International/Cam-Lok Adapter	**#042 466**	A one-piece adapter with International-style male plug		
Tweco-style Connectors				
Tweco-style Connector	**#195 115**	50 mm		
Adapter, Tweco/International	**#195 116**	One-piece adapter with Tweco-style male connector and international-style female connector		

Date: **Total Quoted Price:**

**The Dinse version of the CST 280 includes one set of male connectors. The Tweco version does not.*

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Litho in USA

SRH-444

Issued April 2006 • Index No. DC/7.0

Stick Welding Power Source

Quick Specs

Heavy Industrial Applications
Steel Erection and Pipe Welding
Tank/Pressure Vessel Fabrication
Maintenance/Repair/Construction
Shipbuilding, Refineries, and Foundries
Chemical and Steel Manufacturing Facilities

Processes
Stick (SMAW)
Air Carbon Arc (CAC-A) Cutting and Gouging

Input Power 3-Phase Power

Rated Output 400 A at 36 VDC, 60% Duty Cycle

Weight 784 lb (356 kg)

The Power of Blue®

Superior arc welding performance provides outstanding Stick welding and eliminates the need for rewelds.

Remote amperage control receptacle can easily connect remote amperage control.

Superior 6010 Stick electrode performance offers reliable puddle control with open root, full-penetration welding.

Control-circuit overload breaker allows for quick resetting and eliminates the need to keep fuses on hand.

High/low output terminals conveniently let you choose between two different amperage ranges for improved output control.

Two wide amperage ranges for fine adjustment allows exact control of weld amperage.

Infinite amperage control allows precise weld output adjustment; you always get the exact heat you need to produce a better weld.

Easy-to-install running gear has large wheels for smoother mobility.

Built-in Hot Start™ makes it easy to start difficult-to-start Stick electrodes, such as E6010 and E7018.

Specifications (Subject to change without notice.)

CC DC 3 Phase

Rated Output	Welding Amperage Range	Amps Input at Rated Output, Three-Phase, 60 Hz 208 V	230 V	460 V	575 V	KVA	KW	Dimensions	Net Weight
400 Amps at 36 VDC, 60% Duty Cycle	30–280 50–500	89	80	40	32	31.9	19.6	H: 30-1/4 in (768 mm) W: 22-1/2 in (572 mm) D: 35-3/4 in (908 mm)	784 lb (356 kg)

TRUE BLUE® 3YR. WARRANTY

Power source is warranted for 3 years, parts and labor.
Original main power rectified parts are warranted for 5 years.

MADE IN USA
APPLETON, WI

Miller®

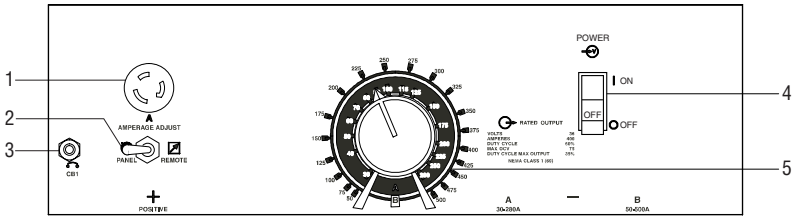
Miller Electric Mfg. Co.
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

International Headquarters
Phone: 920-735-4505
USA FAX: 920-735-4134
Canadian FAX: 920-735-4169
International FAX: 920-735-4125

Web Site
www.MillerWelds.com

ISO 9001:2000 REGISTERED QUALITY SYSTEM

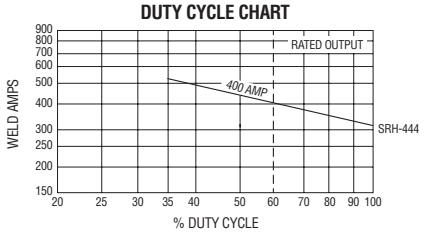
Control Panel



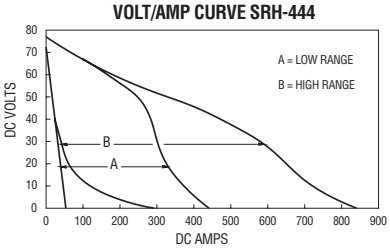
1. Remote Amperage Control Receptacle
2. Remote Amperage Switch
3. Circuit Breaker CB1
4. Power Switch
5. Amperage Adjustment Control

Performance Data

DUTY CYCLE CHART



VOLT/AMP CURVE SRH-444



Miller Accessories

RHC-3 Remote Control
#040 056 20 ft (6 m)
#195 354 100 ft (30.5 m)
Remote hand amperage control for all SRH models. Supplied with a cable and plug.

No. 20 Running Gear
#041 581
Four 8 in (203 mm) poly/rubber blend wheels with 30 in (762 mm) towing handle.

Stick Hook-Up Accessories #173 851
Includes 50 ft (15.2 m) No. 2/0 electrode cable with electrode holder and lug, and 50 ft (15.2 m) No. 2/0 work cable with work clamp.

No. 4WA Welding Accessories #040 045
Includes 35 ft (10.7 m) No. 2/0 electrode cable with electrode holder and lug, 30 ft (9 m) No. 2/0 work cable with lug, welding helmet and wire brush.

Voltage-Sensing Wire Feeders

SuitCase™ 8VS Wire Feeder #194 890
SuitCase™ X-TREME™ 12VS Wire Feeder #195 500
Lightweight, portable, voltage-sensing wire feeders include secondary contactor and gas valve. Require drive roll kit. See Lit. Index Nos. M/6.4 and M/6.41.

Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
SRH-444	**#900 751** **#900 753**	208/230/460 V, 60 Hz 230/460/575 V, 60 Hz		
Accessories				
RHC-3 Remote Control	**#040 056** **#195 354**	Includes 20 ft (6 m) cable and plug Includes 100 ft (30.5 m) cable and plug		
No. 20 Running Gear	**#041 581**			
Stick Hook-Up Accessories	**#173 851**	Includes 50 ft (15.2 m) No. 2/0 electrode cable with electrode holder and lug, and 50 ft (15.2 m) work cable with work clamp		
No. 4WA Welding Accessories	**#040 045**	Includes 35 ft (10.7 m) No. 2/0 electrode cable with electrode holder and lug, 30 ft (9 m) No. 2/0 work cable with lug, welding helmet and wire brush		
SuitCase™ 8VS	**#194 890**	See Lit. Index No. M/6.4		
SuitCase™ X-TREME™ 12VS	**#195 500**	See Lit. Index No. M/6.41		

Date: **Total Quoted Price:**

Distributed by:

Miller

Litho in USA

Gold Star® Series

Issued April 2007 • Index No. DC/8.1

Stick Welding Power Source

Quick Specs

Heavy Industrial Applications
- Steel Erection
- Pipe Welding
- Tank/Pressure Vessel Fabrication
- Maintenance/Repair
- Shipbuilding
- Construction
- Refineries
- Chemical Manufacturing Facilities
- Steel Manufacturing Facilities
- Foundries

Processes
- Stick (SMAW)
- TIG (GTAW)
- Air Carbon Arc (CAC-A) Cutting and Gouging
- Flux Cored (FCAW)
- MIG (GMAW) Spray Transfer when using a Voltage-Sensing Wire Feeder

Input Power
302/402: 3-Phase Power
452/602: 3-Phase Power
652/852: 3-Phase Power

Rated Output
302/402: 300 A at 32 VDC, 60% Duty Cycle
452/602: 450 A at 38 VDC, 60% Duty Cycle
652/852: 650 A at 44 VDC, 60% Duty Cycle

Weight
302/402: 352 lb (160 kg)
452/602: 404 lb (183 kg)
652/852: 505 lb (229 kg)

The Power of Blue®

Superior arc welding performance with Stick and TIG welding.

Built-in arc control lets you get in tight without sticking the electrode. An electrode compensation circuit ensures consistent arc control performance regardless of the electrode size.

Hot Start™ makes it easier to start difficult-to-start Stick electrodes such as E-6010 and E-7018.

Simple control panel features single range amperage adjustment. Provides easy, efficient operation.

Optional digital meters for voltage and amperage. Large displays are easy to read, even at 30 ft (9.2 m).

Line voltage compensation ensures consistent weld performance by keeping output power constant even if primary input power varies by ±10%.

14-pin receptacle provides quick, direct connection to Miller 14-pin remote controls and switches.

Gold Star 452/602

115 V duplex receptacle provides 15 amps of auxiliary power.

Power efficient, exceptional value and return on your investment.

Fan-On-Demand™ operates only when needed reducing noise, power consumption, and the amount of airborne contaminants pulled through the machine.

Enclosed circuit boards provide additional protection from contaminants resulting in longer service life.

Thermal overload protection light indicates power shutdown. Helps prevent machine damage if the duty cycle is exceeded or airflow is blocked.

PC board protection prevents the wire feeder power or other stray voltages (less than 115 VAC) from harming the power source PC board.

Power cord strain relief provided for your convenience at installation.

TRUE BLUE® 3YR. WARRANTY

Power source is warranted for 3 years, parts and labor.
Original main power rectified parts are warranted for 5 years.

MADE IN USA
APPLETON, WI

Miller®

Miller Electric Mfg. Co.
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

International Headquarters
Phone: 920-735-4505
USA FAX: 920-735-4134
Canadian FAX: 920-735-4169
International FAX: 920-735-4125

Web Site
www.MillerWelds.com

ISO 9001:2000 REGISTERED QUALITY SYSTEM

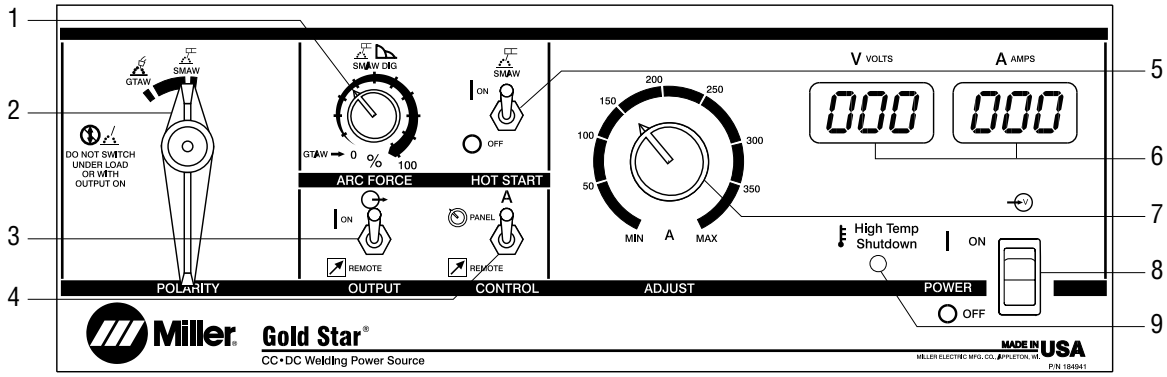
Gold Star® 302/402 Specifications (Subject to change without notice.)

Rated Output	Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50/60 Hz 200 V	230 V	380 V	400 V	440 V	460V	575 V	KVA	KW	Dimensions	Net Weight
300 A at 32 VDC, 60% Duty Cycle	15–395 A	68 VDC	70	61	35	33	31	31	25	24.5	13.8	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 30-1/2 in (775 mm) including strain relief	352 lb (160 kg)

Gold Star 302 and 402 (without CE) certified to both the Canadian and U.S. Standards for welding equipment.

50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.

Control Panel

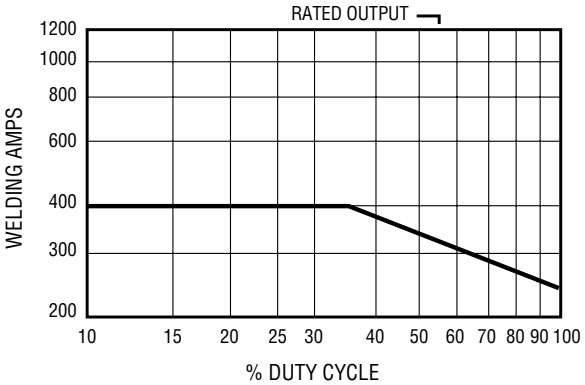


1. Arc Force (DIG) Control
2. Polarity Selector Switch*
3. Output Switch (Contactor)
4. Remote Amperage Control Switch
5. Hot Start Switch
6. Digital Meters (Optional)
7. Amperage Adjustment Control
8. Power Switch with Indicator Light
9. High Temperature Shutdown Light

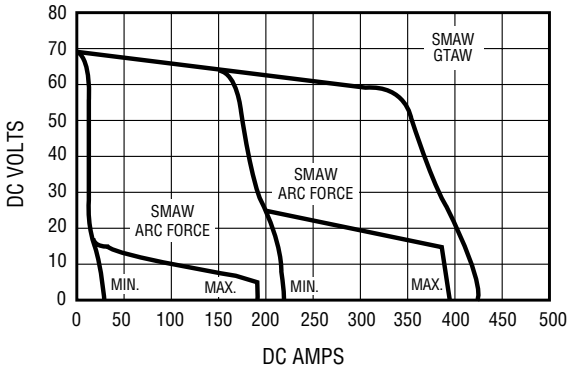
Note: Polarity Selector Switch is not standard on 402 model.

Performance Data

DUTY CYCLE CHART



VOLT/AMP CURVE CC



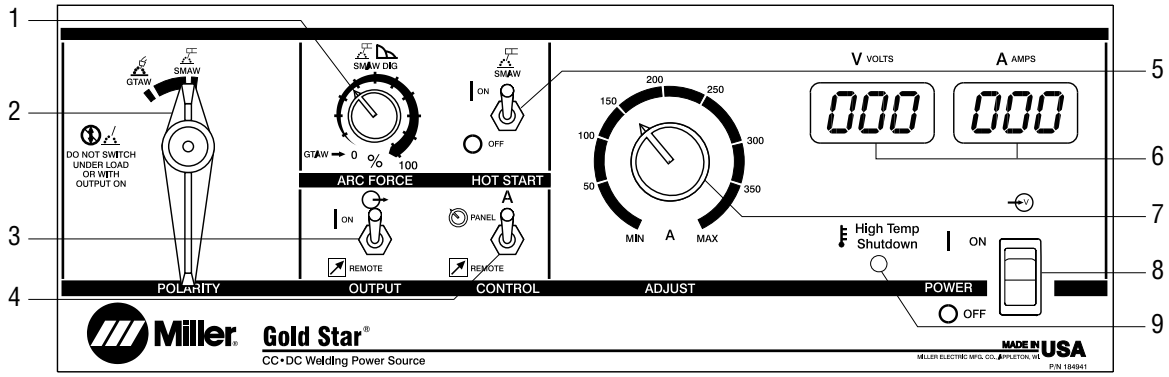
Gold Star® 452/602 Specifications (Subject to change without notice.)

Rated Output	Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50/60 Hz 200 V	230 V	380 V	400 V	440 V	460 V	575 V	KVA	KW	Dimensions	Net Weight
450 A at 38 VDC, 60% Duty Cycle	20–590 A	71 VDC	102	89	54	51	47	45	36	35.5	23.3	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 38 in (966 mm) including strain relief	404 lb (183 kg)

Certified to both the Canadian and U.S. Standards for welding equipment.

50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974

Control Panel

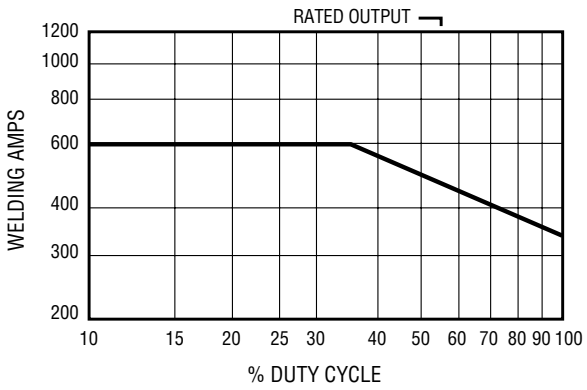


1. Arc Force (DIG) Control
2. Polarity Selector Switch*
3. Output Switch (Contactor)
4. Remote Amperage Control Switch
5. Hot Start Switch
6. Digital Meters (Optional)
7. Amperage Adjustment Control
8. Power Switch with Indicator Light
9. High Temperature Shutdown Light

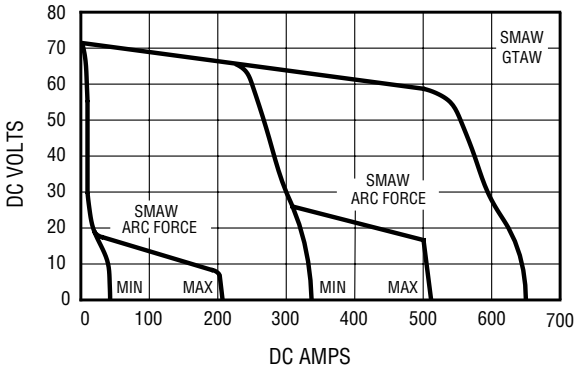
Note: Polarity Selector Switch is not standard on 602 model.

Performance Data

DUTY CYCLE CHART



VOLT/AMP CURVE CC



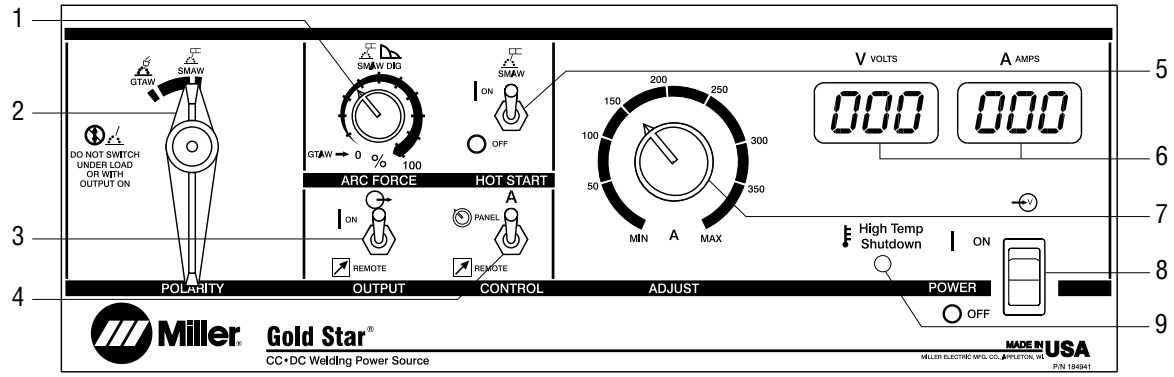
Gold Star® 652/852 Specifications (Subject to change without notice.)

Rated Output	Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50/60 Hz 230 V	380 V	400 V	440 V	460 V	575 V	KVA	KW	Dimensions	Net Weight
650 A at 44 VDC, 60% Duty Cycle	50–850 A	71 VDC	124	75	71	65	62	50	49.4	36	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 38 in (966 mm) including strain relief	505 lb (229 kg)

Gold Star 652 and 852 (without CE) certified to both the Canadian and U.S. Standards for welding equipment.

50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.

Control Panel

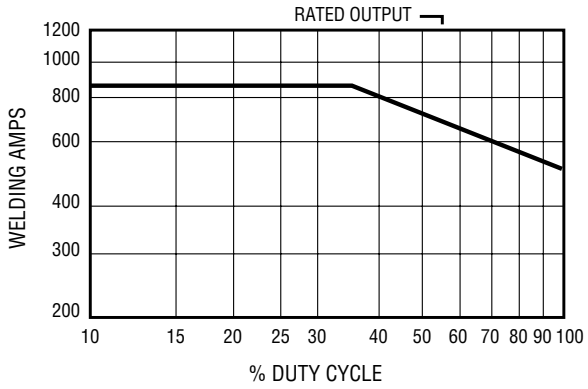


1. Arc Force (DIG) Control
2. Polarity Selector Switch*
3. Output Switch (Contactor)
4. Remote Amperage Control Switch
5. Hot Start Switch
6. Digital Meters (Optional)
7. Amperage Adjustment Control
8. Power Switch with Indicator Light
9. High Temperature Shutdown Light

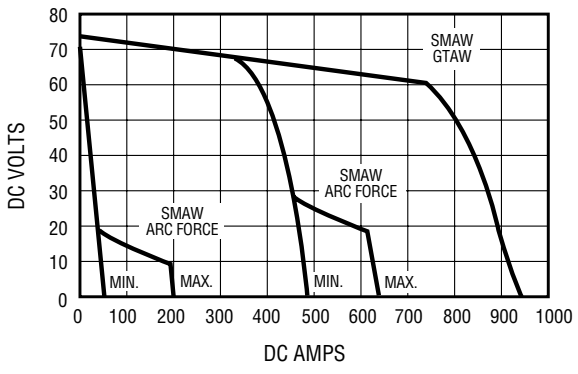
Note: Polarity Selector Switch is not standard on 852 model.

Performance Data

DUTY CYCLE CHART



VOLT/AMP CURVE CC



Genuine Miller Options

Digital Meters

#043 812 Field
For Gold Star models after serial no. KG 283 595

Easy-to-install, front-panel-mount, digital amp and volt meters.

Air Filter Kit #042 939 Field
Helps protect internal components from dust and dirt, reducing need for maintenance and providing extended service life.

Ground Current Sensor #195 048 Field
Disables power source if weld current is present on primary ground.

Polarity Switch

#043 313 Field For Gold Star 402
#043 314 Field For Gold Star 602 and 852

Allows operators to switch from DCRP or DCEN for TIG or Stick applications without removing cables.

Genuine Miller Accessories

Process Control Selector #042 872
Allows you to easily change weld processes from TIG to Stick without changing cables. Can be used with any constant-current, constant-voltage or multiprocess CC/CV welding power source.

Standard Running Gear #042 886
The large 10 in (254 mm) rear wheels and 5 in (127 mm) front casters on this running gear provide excellent mobility on the shop floor, making it easier to move the power source around and over cables and cracks. Very easy to install. Handles double as weld cable holder.

Standard Cylinder Rack #042 887
Holds two cylinders. Only installs on Standard Running Gear.

Stick Hook-Up Kit #173 851
50 ft (15.2 m) 2/0 cable. Kit includes electrode holder, weld cable and work cable with clamp.

Coolant Systems

For more information, see Miller Coolant Systems Lit. Index No. AY/7.2.

HF-251D-1 High-Frequency Arc Starter/Stabilizer #042 388
This portable 250 amp, 60% duty cycle unit adds high frequency to the welding circuit to help start the arc when using the TIG (GTAW) process. Operates on 115 VAC 50/60/100 Hz. See Lit. Index No. AY 5.1.

Remote Controls and Switches

Remote On/Off Control #042 869
Allows you to turn your Gold Star on or off from a distance of 20 ft (6 m). This is especially useful if your power source is located up in a mezzanine. Connects to the power source's terminal strip.

RMLS-14 #129 337
Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and back for momentary contact. Includes 20 ft (6 m) cord and 14-pin plug.

RCC-14 Remote Contactor and Current Control #151 086
Rotary-motion (side to side) fingertip control. Fastens to TIG torch using two Velcro strips. Allows complete current and contactor control at operator's fingertips. Includes 28 ft (8.5 m) cord and plug.

RCCS-14 Remote Contactor and Current Control #043 688
Up-and-down rotary-motion fingertip control. Great for applications that require a finer amperage control. Includes 28 ft (8.5 m) control cord.

RHC-14 Hand Control
#129 340 20 ft (6 m) cord
#129 340 0010305 100 ft (30.5 m) cord
Miniature hand control with 14-pin plug for remote current and contactor control. Dimensions: 4 x 4 x 3-1/4 in (102 x 102 x 82 mm).

RFCS-14 Foot Control #043 554
Heavy-duty foot current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.

Extension Cables for 14-Pin Plugs to 14-Pin Sockets
#122 973 25 ft (7.6 m)
#122 974 50 ft (15.2 m)
#122 975 75 ft (22.8 m)
Extension cords make a direct connection between the power source and the accessory control. No messy splicing or adapting required.

Wire Feeders

SuitCase 8VS™ #194 890
X-Treme 12VS™ #195 500
Lightweight, portable wire feeder for a variety of wires up to .062 in. Holds up to an 8 in or 12 in spool of wire.
See Lit. Index Nos. M/6.4 and M/6.41.

Notes

Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Power Source				
Gold Star® 302	**#903 373*** **#903 398***	200-208/230/460 V, 60 Hz 230/460/575 V, 60 Hz		
Gold Star® 402	**#907 282****	380/400/440 V, 50 Hz w/**CE**		
Gold Star® 452	**#903 374*** **#903 400***	200-208/230/460 V, 60 Hz 230/460/575 V, 60 Hz		
Gold Star® 602	**#907 283****	380/400/440 V, 50 Hz w/**CE**		
Gold Star® 652	**#903 402***	230/460/575 V, 60 Hz		
Gold Star® 852	**#907 284****	380/400/440 V, 50 Hz w/**CE**		
Digital Meters	**#043 812**	Field. For models after serial no. KG 283 595		
Air Filter Kit	**#042 939**	Field		
Ground Current Sensor	**#195 048**	Field		
Polarity Switch	**#043 313** **#043 314**	For Gold Star 402 For Gold Star 602 and 852		
Stick Accessories				
Stick Hook-Up Kit	**#173 851**	2/0 cable, 50 ft. Includes electrode holder, weld cable and work cable with clamp.		
Stick Electrodes				
TIG Accessories				
HF-251D-1	**#042 388**	HF Arc Starter/Stabilizer. See Lit. Index No. AY/5.1		
Torch, Tungsten and Consumables				
Gas Cylinder, Gas Hose and Fittings				
Remote Controls				
Remote On/Off	**#042 869**			
RMLS-14	**#129 337**	Rocker switch		
RCC-14	**#151 086**	Fingertip control (side to side)		
RCCS-14	**#043 688**	Fingertip control (up and down)		
RHC-14	**#129 340** **#129 340 0010305**	Hand control with 20 ft (6 m) cord Hand control with 100 ft (30.5 m) cord		
RFCS-14	**#043 554**	Foot control		
Extension Cables		See page 6		
Wire Feeders				
SuitCase™ 8VS/X-Treme™ 12VS	**#194 890/195 500**	See Lit. Index No. M/6.3		
Miscellaneous				
Process Control Selector	**#042 872**			
Standard Running Gear	**#042 886**			
Cylinder Rack/Lift	**#043 005**			
Standard Cylinder Rack	**#042 887**			
Primary Power Cable				
Secondary Welding Cables				
Work Cable and Clamp				

Date: **Total Quoted Price:**

* *Certified to both the Canadian and U.S. Standards for welding equipment.*

** *50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1. Conforms with NEMA EW 1 "Electric Arc Welding Power Source," Class I (100).*

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